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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,353	05/05/2006	Hiroshi Kajitani	8017-1191	8961

466 7590 10/09/2007  
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EXAMINER
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MARTIN, ANGELA J

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1795

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/578,353

Applicant(s)

KAJITANI ET AL.

Examiner

Angela J. Martin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/5/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6, 7, 12-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirohisa et al., JP 2004-265787.

Hirohisa et al., teach a fuel cartridge for a fuel cell comprising a first chamber for retaining first liquid fuel, a second chamber for retaining second liquid fuel (abstract), a partition wall for partitioning said first chamber and said second chamber (0008), and a mounting section to be fixed to a fuel cell body (Fig. 1), wherein said second chamber is provided with a fuel outlet port through which said second liquid fuel passes to said fuel cell body (Fig. 1). The fuel cartridge for the fuel cell according to claim 1, wherein said fuel outlet port is further arranged in said first chamber (0006). The fuel cartridge for the fuel cell according to claim 2, wherein said second chamber further comprises a fuel inlet port to which said first liquid fuel, which passes through said fuel outlet port arranged in said first chamber, is introduced (0014). The fuel cartridge for the fuel cell according to claim 1, wherein said second chamber is a fuel mixing tank for mixing said first liquid fuel and said second liquid fuel (0006). The fuel cartridge for the fuel cell

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according to claim 1, further comprising a first container having said first chamber and a second container having said second chamber and constructed so as to be removably mounted to said first container (0006). The fuel cartridge for the fuel cell according to claim 6, further comprising a fitting section at which said first container and said second container are fitted to each other (Fig. 1). A fuel cell comprising a fuel cell body having a fuel pole and the fuel cartridge for the fuel cell according to claim 1, which contains liquid fuel, to be supplied to said fuel pole (0006). The fuel cell according to claim 14, wherein a liquid mixing tank for mixing said first liquid fuel and said second liquid fuel is arranged in said fuel cell body (0006, 0008-0009). The fuel cartridge for the fuel cell according to claim 2, wherein said second chamber is a fuel mixing tank for mixing said first liquid fuel and said second liquid fuel (0006, 0008-0009). The fuel cartridge for the fuel cell according to claim 3, wherein said second chamber is a fuel mixing tank for mixing said first liquid fuel and said second liquid fuel (0006, 0008-0009). The fuel cartridge for the fuel cell according to claim 1, wherein a liquid surface indication member for indicating the level of a liquid surface of said first liquid fuel or the level of a liquid surface of said second liquid fuel is arranged in said first chamber or in said second chamber (0051). The fuel cartridge for the fuel cell according to claim 12, wherein said liquid surface indication member comprises a float that floats on said first liquid fuel or on said second liquid fuel (Fig. 3, ref. 18). The fuel cell according to claim 14, wherein a measurement section for measuring the level of a liquid surface of said first liquid fuel or the level of a liquid surface of said second liquid fuel is arranged in said fuel cell body (Fig. 3, ref. 18).

Thus, the claims are anticipated.

3. Claims 1-4, 6, 7, 14, 15, 17, 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Akihiro, JP 2004-296135.

Akihiro teaches a fuel cartridge for a fuel cell comprising a first chamber for retaining first liquid fuel, a second chamber for retaining second liquid fuel (0008), a partition wall for partitioning said first chamber and said second chamber (Fig. 2), and a mounting section to be fixed to a fuel cell body (0009), wherein said second chamber is provided with a fuel outlet port through which said second liquid fuel passes to said fuel cell body (0023-0025). The fuel cartridge for the fuel cell according to claim 1, wherein said fuel outlet port is further arranged in said first chamber (0035). The fuel cartridge for the fuel cell according to claim 2, wherein said second chamber further comprises a fuel inlet port to which said first liquid fuel, which passes through said fuel outlet port arranged in said first chamber, is introduced (0035). The fuel cartridge for the fuel cell according to claim 1, wherein said second chamber is a fuel mixing tank for mixing said first liquid fuel and said second liquid fuel (0032). The fuel cartridge for the fuel cell according to claim 1, further comprising a first container having said first chamber and a second container having said second chamber and constructed so as to be removably mounted to said first container (0046). The fuel cartridge for the fuel cell according to claim 6, further comprising a fitting section at which said first container and said second container are fitted to each other (0035-0036). A fuel cell comprising a fuel cell body having a fuel pole and the fuel cartridge for the fuel cell according to claim 1 which contains liquid fuel to be supplied to said fuel pole (0017). The fuel cell according to

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claim 14, wherein a liquid mixing tank for mixing said first liquid fuel and said second liquid fuel is arranged in said fuel cell body (0032; 0038). The fuel cartridge for the fuel cell according to claim 2, wherein said second chamber is a fuel mixing tank for mixing said first liquid fuel and said second liquid fuel (0032; 0038) The fuel cartridge for the fuel cell according to claim 3, wherein said second chamber is a fuel mixing tank for mixing said first liquid fuel and said second liquid fuel (0032; 0038).

Thus, the claims are anticipated.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-13, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akihiro, JP 2004-296135.

Akihiro does not recite the fuel cartridge for the fuel cell according to claim 1, wherein a detection window for detecting the liquid surface of said first liquid fuel or a liquid surface of said second liquid fuel from the outside is arranged in said first chamber or in said second chamber. The fuel cartridge for the fuel cell according to claim 10, wherein said detection window is constructed to allow light coming from said fuel cell body to pass through said detection window. The fuel cartridge for the fuel cell according to claim 1, wherein a liquid surface indication member for indicating the level

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of a liquid surface of said first liquid fuel or the level of a liquid surface of said second liquid fuel is arranged in said first chamber or in said second chamber. The fuel cartridge for the fuel cell according to claim 12, wherein said liquid surface indication member comprises a float that floats on said first liquid fuel or on said second liquid fuel. The fuel cell according to claim 14, wherein a measurement section for measuring the level of a liquid surface of said first liquid fuel or the level of a liquid surface of said second liquid fuel is arranged in said fuel cell body.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the Akihiro teaches a microcomputer, controllers, and operating system, which could be programmed to provide detection of liquid surface and provide a measurement section.

6. Claims 5, 19, 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Akihiro, JP 2004-296135, in view of Nobuhiko et al., JP 2003-257466.

Akihiro teaches a fuel cell as described above.

Akihiro does not teach a first and second liquid fuel of different colors.

Nobuhiko et al., teach a first and second liquid fuel of different colors (0031-0033; 0057).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to insert the teachings of Nobuhiko et al., into the teachings of Akihiro because one would be able to visually discern the first liquid fuel from the second liquid fuel.

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7. Claims 8, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akihiro, JP 2004-296135, in view of Prased et al., U.S. Pat. Application Pub. 2003/0138679 A1 or Bullock et al. U.S. Pat. Application Pub. 2003/0207158 A1 or deVos et al., U.S. Pat. Application Pub. 2005/0079128 A1.

Akihiro teaches a fuel cell as described above.

Akihiro does not teach cover member for covering fuel outlet port.

Prased et al., teach a cover member for covering said fuel outlet port, wherein said cover member is formed into a removable sheet (0041); further comprising a cover member for covering said fuel outlet port, wherein said cover member is an elastic member with a self-sealing characteristic (0036).

Bullock et al., teach a cover member for covering said fuel outlet port, wherein said cover member is formed into a removable sheet (0030-0031); further comprising a cover member for covering said fuel outlet port, wherein said cover member is an elastic member with a self-sealing characteristic (0030-0031).

DeVos et al., teach a cover member for covering said fuel outlet port, wherein said cover member is formed into a removable sheet (0038); further comprising a cover member for covering said fuel outlet port, wherein said cover member is an elastic member with a self-sealing characteristic (0035-0036).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to insert the teachings of Prased et al., or Bullock et al., or DeVos et al., into the teachings of Akihiro because the prior art of record teach a self-sealing arrangement prevents leakage from the fuel receptacle.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJM 